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# PAMPHLET

on

# Canada Unleached Hardwood Ashes,

# AS A FERTILIZER.

COMPILED BY

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Exporter,

Napanee. Ontario. Canada.

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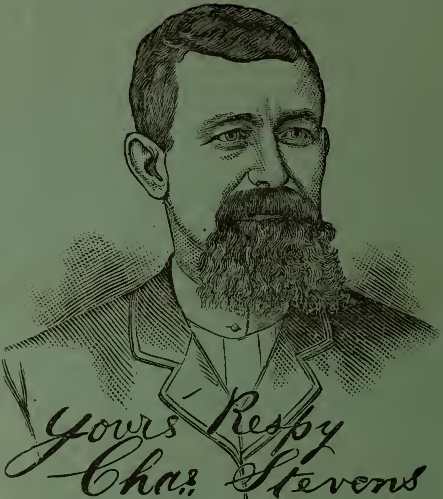

Yours Respy
Chas. Stevens

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# TO FARMERS

One of the most important facts to which the farmer or gardener should give his attention is the ANALYSIS of the several different kinds of crops that he wishes to grow, so that as he gathers in his crops or fruit, he may know as near as possible the different elements that those crops have taken from his soil in tho form of POTASH, PHOSPHORIC ACID, LIME, MAGNESIA, SILICA, SODA, SULPHURIC ACID, OXIDE OF IRON, CHLORINE and AMMONIA. He should also examine the analysis, not only of UNLEACHED WOOD ASHES, but also of all other fertilizers and manures, and from the knowledge thus acquired he will be the better able to judge which fertilizer will furnish most nearly the required ingredients in their most natural and concentrated forms, to supply and replenish the land from which he has just removed his crops, and thus place his land in the best condition for similar or other crops which may follow in their turn, and at the same time improve the fertility of his soil by furnishing to it such manures and fertilizers as will replace, to the greatest extent, all those elements of the soil which have been taken from it by frequent and continual cropping, and by this RESTORING PROCESS he will be able to keep his land in the most perfect state of cultivation and ready at all times for any crop he may wish to propagate, and this, too, at the least possible cost. With this end in view I have given a few tables of ANALYSIS of various crops. I know that those who take the trouble to thoroughly inform themselves will become satisfied that my UNLEACHED WOOD ASHES are the best and most natural fertilizer that can be used; being formed by nature and drawn up by the new and native soil in a soluble form through the roots of the trees from which they are burned, puts them into the best possible form and makes them really a "NATURAL FERTILIZER," for all the different kinds of crops, as well as all kinds of fruit, far out-stripping stable manures. Unlike many patent FERTILIZERS, they are NOT STIMULANTS, but their effects are very lasting and will bring the poorest land that has long been worn out with continual use up into rich and fertile fields of real value. Their use always insures a good return for the money expended, making the soil strong, mellow, loose and sweet, and not only this but a great saving is made of from 25 to 40 per cent. by the frequent and continual use of my UNLEACHED WOOD ASHES, against the purchase and use of the quick-acting, short-lived stimulating FERTILIZERS that gradually but surely impoverish the soil; although in some cases they may seem cheaper than the ASHES for the first one or two years, but in the end are found to be the MOST COSTLY, as they do not contain the necessary elements required to grow and mature the crops, and being highly treated, as they are, of sulphuric acid makes them soluble and also acts on the soil, rendering everything soluble at once, so as to act with the fertilizer, thus making a good show for a while, but the soil is soon filled up with acid, and at the same time being robbed of its strength by the growing process, and there being no restoration made, it must certainly GROW WEAK, SOUR, COLD, HEAVY, LUMPY, AND FINALLY WORTHLESS. And right here let me call particular attention to the element of LIME, which, by analizing, is found to exist in large proportions in my UNLEACHED ASHES. This lime is vegetable, very fine and concentrated, and worth from four to five times as much as common "STONE LIME" for agricultural purposes on account of its fineness and concentrated strength, having been absorbed from the virgin soil through the roots of the tree in a soluble form, and when applied again to the soil in the form of ASHES, combining as it does with all the elements which ORIGINALLY existed in the tree, viz:—POTASH, PHOSPHORIC ACID, IRON, MAGNESIA and SILICA, it becomes a ready food for plant or vegetable, and at the same time nourishes the soil. Lime applied in this way, having once been soluble, needs but a few showers from NATURE'S great reservoir to again render it soluble and ready to act upon the soil, promptly liberating such elements as have been lying useless and undisturbed perhaps for long years. Stone lime being a mineral, and very much coarser and harder, only a small portion of that which is applied dissolves or becomes soluble and mixes with the soil or renders any aid to vegetation. AGAIN, "STONE LIME" being coarser and heavier than the vegetable LIME in UNLEACHED ASHES when applied to light, sandy and porous soil, has a tendency to work down through the soil to too great a depth so quickly that but very little benefit is derived from its use, and the conclusion is reached that such land does not need LIME. Such is not the case, but all land needs the LIME applied to it in connection with all elements contained in UNLEACHED ASHES, and especially light, porous and sandy soil, rendering it more like loam and less porous, so that it is capable of holding a fertilizer when applied, and therefore the fertilizer does not LEACH off and dry up as soon as before, and can do its necessary work both upon the soil and supply food to the plant, whereas it would require at least four or five times as much "STONE LIME" to produce like results. There are many kinds of soil that will take from eight to ten times as much STONE LIME to produce the same results as vegetable LIME contained in WOOD ASHES. STONE LIME being worth from $4 50 to $5 C0 per ton, would, of course, from this reasoning, make the vegetable LIME found in my UNLEACHED ASHES worth at least from eighteen to twenty dollars per ton.

This theory has been thoroughly tested where leached ashes have been applied, that only contains one per cent. of POTASH and over thirty per cent. of LIME, to soil that STONE LIME seemed to have no effect upon, giving large and satisfactory results. so long as the minute quantity of POTASH, which the ASHES did contain, lasted, for which the farmer paid as high as from eighteen to twenty cents per bushel and considered them the cheapest fertilizer he could buy, until he came to apply my UNLEACHED ASHES, which he found to be the cheapest of ALL fertilizers, restoring to the exhausted soil all the necessary ingredients through the chemical action of the LIME found in the UNLEACHED ASHES.

It is true that Stone Lime may be somewhat aided in its action upon some soils by using with it Potash and Phosphoric Acid in other forms, and when so used becomes a more expensive fertilizer than the Unleached Ashes; and, as before stated, brings greater exhaustion to the soil because some very important elements are lacking which are contained in the ASHES and that cannot be supplied from any other source. A further test has been made by using LEACHED ASHES, containing only from ten to twelve per cent. of LIME and about one per cent. of POTASH, the results not being half as good from the ASHES, with the less quantity of lime, as with the ashes having thirty per cent. lime in them, which shows unmistakably the great value of lime in ASHES. These tests have repeatmay been made, and with the same results in all cases and in all localities where they have been in the habit of using LEACHED ASHES. Some of the farmers, who used these two kinds of ASHES upon their fields side by side, could not understand the reason why some leached ashes did so much better than others, and all treated alike, little thinking that the trouble lay in the small per cent. of vegetable lime. These POORER QUALITIES of ASHES had been furnished by men with LITTLE or NO EXPERIENCE, and who were no JUDGES of ASHES, and were unacquainted with the kinds of timber, soils and localities which furnish the best qualities of ASHES, for there are many kinds of hardwood timber even which do not absorb from the soil as much LIME, POTASH, Phosphoric Acid, Silica, Magnesia and IRON as some others, and therefore the ASHES from the former timber are not so valuable as a fertilizer. It will be seen by reference to the analysis of crops given herein, that nearly all of them require a large percentage of what is known to chemists as SILICA and MAGNESIA as well as POTASH, LIME and the other elements supplied by the use of UNLEACHED ASHES. SILICA enters largely into the growth, make-up and construction of the stock in corn and the straw in wheat, oats, barley, rye and the coating of the berry must be supplied in some form to nearly all soils in order to have the crops thrive and grow. For where this element is lacking in the soil the crops will be found to lodge, or fall down or french. No matter how rank and thrifty the growth, unless the soil is sufficiently supplied with Silica to give coating and strength to the straw, the crop must be declared a failure; although nearly all soils contain large quantities of Silica in an insoluble form, and of course of no value to the plant without the application of UNLEACHED WOOD ASHES to dissolve and liberate it and set it in action. I deprecate the use of SULPHURIC ACID found in certain grades of fertilizers as being deleterious to the land, and because of its forcing nature, which will be readily understood when I state that, in the making of some of them, from 30 to 40 per cent. of SULPHURIC ACID is used, which is out of all proportion with the needs of any soil, and its application results only in injury in the end.

I have yet to hear of a single instance where corn has lodged or frenched when good UNLEACHED WOOD ASHES have been properly used by the farmer. Fields of corn have been grown year after year for forty years with no other fertilizer than UNLEACHED ASHES, starting in with a yield of thirty bushels to the acre and increasing from year to year until the yield has reached from seventy to one hundred bushels to the acre, and this result was reached by first spreading one fourth of a pound of UNLEACHED ASHES over the tops of the hills as soon as planted for five or six years, covering about fifteen inches of the surface of the hills until all the ground was well ashed over, and afterward six or seven hundred pounds was spread broadcast over the field each year. The soil at first was quite light and sandy, but now has become a fine heavy soil, and not easily affected by drouth. I believe it is conceded by those best informed, that for

## GRASS AND FRUITS

of all kinds, UNLEACHED ASHES are not excelled by any fertilizer in use; not even by the best stable manure, for these combine all the elements that are required to grow the PEACH or PEAR TREE—in fact any kind of TREE, VINE or FRUIT. I have had nineteen years of experience in handling ASHES, both LEACHED and UNLEACHED. Late years I have confined myself chiefly to the unleached ash trade, finding by experience that they are the best adapted for fertilizing purposes and far cheaper than LEACHED ASHES. During all this time I believe my ASHES have given ENTIRE SATISFACTION to those who have used them, and where I have sold I can always sell again.

# UNLEACHED

# Canada Wood Ashes.

GOOD HARDWOOD UNLEACHED ASHES from FIRST GROWTH TIMBER, grown on strong land, the soil of which is rich in POTASH, LIME, PHOSPHORIC ACID, SILICA, MAGNESIA and IRON, is the most complete natural fertilizer that can possibly be used, as they contain all the fertilizing elements drawn from the new and fertile soil in a well-mixed and concentrated form which are required for FRUIT, PLANT, TREE or VEGETABLE. Where UNLEACHED ASHES are used upon tree, plant or vegetable, their action draws from the atmosphere all the NITROGEN or AMMONIA in their growth that is required to carry them on until the ripening process is completed. I know there is a great difference in the VALUE of ASHES, also in the QUALITY, and it REQUIRES GOOD JUDGMENT and LONG EXPERIENCE to be able to know absolutely the kind of ASHES best adapted to meet the needs of AGRICULTURE. My long experience of nineteen years has enabled me to acquire just that knowledge. My ashes are gathered from house to house, employing, as I do, many men and horses for the purpose, housing them as gathered. I also do my own SHIPPING, and am therefore able to say that my ashes are the best in the market. Were it necessary, satisfactory statements could be procured that many have attempted to supply UNLEACHED ASHES, but from their want of experience as to qualities, their ASHES have not given the satisfaction which had been promised. With me my trade has constantly increased from the first, and I give it my personal and exclusive attention, so that I can most certainly guarantee my UNLEACHED WOOD ASHES TO BE THE BEST AND CHEAPEST FERTILIZER IN USE.

# HOW UNLEACHED ASHES SHOULD BE APPLIED.

In applying UNLEACHED ASHES to the soil as a fertilizer, much the same course should be pursued as in the application of stable manure, as they are of a vegetable nature, taken from the soil by the timber in soluble form, and in such proportions as are natural, combining as they do in themselves and in right proportions,

## POTASH, PHOSPHORIC ACID, LIME, MAGNESIA, SODA, SULPHURIC ACID, SILICA, AND OXIDE OF IRON.

It is generally conceded that all crops, fruit and plants do well for many years on new land after the timber has been removed, and until the POTASH, PHOSPHORIC ACID and LIME have been absorbed from the soil by continual cropping. Again, the richer the soil is in POTASH, PHOSPHORIC ACID, LIME, MAGNESIA, IRON and SILICA, the longer it will wear. But when the soil becomes old and worn out these elements must be restored in some manner, and the most natural way of doing so is by a liberal application of my UNLEACHED ASHES, made of wood cut from the virgin soil. All fruits and crops are large feeders on POTASH, PHOSPHORIC ACID, LIME and SILICA, but more particularly on Potash, and the soil, by long and continual use, having exhausted these ingredients is brought back to its virgin state, where the owner, knowing what his lands most need and supplies that need with the free use of ASHES, thus restoring it to its natural state as near as may be, and it will then go on again for years producing as large crops as ever, and can be kept up a whole life time with small annual dressing, if a heavy dressing was at first given. The lime furnished through the use of UNLEACHED ASHES is a vegetable lime, which is similar to the LIME in BONES, but much easier to dissolve, but when mixed with the soils and kept moist by showers it dissolves gradually and soon becomes like phosphate of lime and then similar to PHOSPHORIC ACID, and as valuable to crops as those ingredients are without the application of sulphuric acid. Sometimes, for quick and short growing crops, a slight mixture of common salt and land plaster with the ASHES will dissolve the lime and phosphoric acid and make them work a little quicker the first year. The salt and plaster not acting as a fertilizer, but simply as a dissolvent, will enable the ASHES to work readily upon quick growing crops, like strawberries, oats and potatoes, and this can, without detriment to the soil, provided the ingredients, which are forced out by this rapid growth, are replaced annually by using the best qualities of UNLEACHED ASHES or manure containing POTASH, PHOSPHORIC ACID, LIME, and SILICA in a VEGETABLE FORM, LOOSE, LIGHT, MELLOW and SWEET. Upon such soil no NOXIOUS WEEDS CAN GROW, as is sometimes seen on soils stimulated and forced by quick-acting fertilizers made from minerals. But POTASH, PHOSPHORIC ACID, and LIME, in ASHES, and manure being in vegetable form are all soluable and easy to dissolve, consequently more valuable than when in the form of mineral or quick acting fertilizers. Stable manure when thoroughly applied, will last from three to five years, while the UNLEACHED ASHES furnished by me, when THOROUGHLY APPLIED, will last from ten to fifteen years.

# DIRECTIONS

# FOR USING UNLEACHED ASHES.

When used in drills from six to ten hundred pounds can be used to good advantage per acre, but in making a thorough application from two to five tons should be used, although when used in quantities over two tons per acre they should be spread on top of the ground in the fall or early spring, when the ground is not frozen, so that the moisture and rains of these seasons of the year will aid in dissolving the POTASH, PHOSPHORIC ACID, LIME, SILICA, and enable them to amalgamate with the soil before the planting of seeds—otherwise the strong alkalies, coming in contact with the seed, might destroy the crop for that year. After sowing broadcast it would be well to harrow in the ASHES a little. Should it so happen that good results did not follow the first year's application, by reason of a failure of sufficient rains to dissolve all the chemicals in the ASHES before hot, dry weather comes on, let them alone; that is, make no application of other fertilizers to the ground, for nothing will be lost by their lying in the soil and their influence will surely be felt in the next year's crops. When once thoroughly LEACHED into the soil they are invaluable in a DROUTH. I think it would be well for farmers who have not heretofore used ASHES, to experiment for themselves by using side by side with stable manure and other fertilizers, a like quantity in cost of my UNLEACHED WOOD ASHES, and then in another field apply in cost half each of stable manure, well mixed with the soil, and as a top dressing UNLEACHED ASHES well harrowed in.

## FOR PEACH TREES.

Around young trees just set out, three to five pounds of UNLEACHED ASHES worked or raked into the soil will be sufficient, but care should be taken that they are not allowed to come in contact with the bark of the trees; they should be spread out about as far as the branches extend, or even a little further. As the tree advances in years the quantity should be increased at the rate of about one or two pounds annually, until the tree begins to bear, then the increase should be from three to four pounds each year. If the tree is a heavy bearer the quantity can safely be increased up to from twenty to fifty pounds per year. The largest portion of the ASHES should be spread out near the ends of the roots of the trees, as the small fibres and roots of the tree take up the largest portion of its food; then, also, the further away from the body of the tree the roots extend the less liable is the tree to be affected by winds or disease. If nothing but UNLEACHED WOOD ASHES is used around the peach tree from the time of setting out, it will be found that the tree is less liable to be affected by the "yellows" and "borers" or other diseases. The bark will be smooth, the tree hardy and long-lived, and the fruit large and of a superior color and most delicious flavor. Its start in the spring is steady, its growth gradual through the whole season, and the ASHES will largely aid it through the hot, dry weather, and its fruit ripens from ten to twelve days earlier than when other manures are used; and then, too, the wood of the tree ripens earlier and more perfectly, enabling it to withstand more readily the severe frosts of winter. Peach trees, and in fact all kinds of trees, require large quantities of POTASH, but no fruit tree can live and do well upon POTASH, unaccompanied by the other elements contained in ASHES. They need the POTASH, PHOSPHORIC ACID, LIME, SILICA and IRON, together with all the other elements found in UNLEACHED ASHES, as they come from the virgin soil.

True, application of Potash no doubt will do well for a time, but there is no other way whereby the life of the tree can be so well regulated as by a liberal application of my UNLEACHED ASHES, and then the large amount of vegetable LIME and elements found in the ASHES and counted almost worthless by the chemist in his analysis, does become of great value when applied to the peach orchard. Old orchards or orchards varying in age from five to fifteen years, should receive a bountiful supply of UNLEACHED ASHES. When first applied, say from twenty to seventy-five pounds, as the soil absorbs a large portion of their strength before the roots of the tree are reached, and afterwards from ten to fifty pounds each year. It is better in such cases to apply the ASHES in the fall or early spring, so that the fall rains and melting snow will aid in the leaching process and give the ASHES more opportunity to reach more effectually the small roots and fibres of the tree. Care should be taken that neither the ASHES nor the earth are piled up around the tree, causing the bark and wood to become soft and spongy, but every spring all substance should be scraped away from around the roots, letting in the sun, air and water, then scattering a few UNLEACHED ASHES close to the bark will effectually kill all insects and be a sure preventative against borers doing their deadly work. It is well, sometimes, to scatter a few ASHES through the branches of the tree in damp weather. The alkali thus produced will prove certain destruction to all insects and worms. PEACHES GROWN BY THE USE OF UNLEACHED ASHES WILL BRING FROM FIVE TO FIFTEEN CENTS PER BASKET MORE IN ANY MARKET. The general effect of UNLEACHED ASHES upon orchards is to render them more even and "EVERY-YEAR BEARERS."

## FOR APPLES, PEARS, PLUMS, QUINCES AND ORANGES.

Apples, pears, plums, quinces and oranges should all be treated quite as thoroughly as the PEACH, applying even larger quantities of the UNLEACHED ASHES in proportion to the bearing qualities of the TREE. Even one or two hundred pounds of ashes for a large APPLE, PLUM or ORANGE tree, will be of great value to the tree, and then no danger need be apprehended from their use, provided they are spread out evenly on the surface of the soil, heaviest near the ends of the roots, care being taken that they are not piled up around the body of the tree. Other fertilizers, of quick-acting kinds, should be avoided, if the life of the tree and flavor of the fruit is aimed at. In setting out trees it is well to mix some of the UNLEACHED ASHES with the soil, as they will give to the tree a better start, the effects of which will be to render them fruitful each consecutive year.

## FOR GRAPES.

When new vines are put out the soil should be mixed with my Unleached Ashes, say one or two pounds to each root, and about the same quantity spread over the top of the ground, increasing the quantity year by year until the vines are five or six years old, using at that age, say eight or ten pounds to each vine; after this the ashes should be spread over all the ground in the vineyard, being governed, in regard to the quantity to be used, by the number of vines to be fed. I think a thorough application should be made to an old vineyard the first time the ASHES are applied, of say from two to four tons per acre, which should be followed up each year afterwards with application of from eight to twelve pounds to each vine. Such an application of my UNLEACHED ASHES is certain to produce a yield of grapes of good color and most delicious flavor, ripening from five to ten days earlier than when stable manure is used, and bring a better price in market, and the clusters will last much longer without the grapes shelling off.

## FOR STRAWBERRIES.

From one to three tons of my UNLEACHED ASHES per acre can be used to good avantage in the cultivation of this most delicious fruit. Great care should be exercised that the ashes do not get upon the plant unless they are at once brushed off, an old broom being used for the purpose. Before the new vines are set out the ground should be well ploughed and an application of from one or two tons of my UNLEACHED ASHES scattered broadcast and then thoroughly harrowed. Then set the vines and top dress over the hills, with from a ton to a ton and a half per acre. In top-dressing old beds use from one to one and a half tons per acre. August, September or October are good months to make the application, as the POTASH, PHOSPHORIC ACID, LIME, SILICA and IRON then has an opportunity to become thoroughly leached into the ground and ready for active work upon the vine in the early spring. Experiments have been made in the culture of strawberries, using one hundred dollars worth of UNLEACHED WOOD ASHES upon one acre, and right along side of it another acre upon which one hundred and fifty dollars worth of cow manure was used. From the acre upon which the UNLEACHED ASHES was used 11,000 quarts of the most delicious berries were picked, while from the other acre, upon which the one hundred and fifty dollars worth of cow manure had been used, only 9,000 quarts were picked, and this experiment was tried for two successive years. From 4,000 to 6,000 quarts per acre is no uncommon yield where ASHES are liberally used, but to grow large crops of from 7,000 to 11,000 quarts per acre would require from five to seven tons of ashes, applying half of them in the fall for some crop that should precede the berries and the balance the next fall as the vines are set out. It would be a little better to crop the ground for two seasons prior to starting the strawberry plants and then the husbandman will be rewarded by large crops and better berries that will bring the highest prices in the market, and standing up longer than when raised by the application of manures.

## FOR WHEAT, RYE AND OATS.

A light application could be made when putting in the seed, of say from three to five hundred pounds per acre, or what will readily work through the drill, and then a few scattered broadcast before the seeds sprout. I think, however, a thorough application the best, say from two to four tons per acre, and spread broadcast in the fall, and then just before the ground freezes, say in November, plow with a light furrow and again plow in the spring with a little deeper furrow, bringing the ashes back near the surface, then harrow and sow as usual. Those unacquainted with the use of my UNLEACHED ASHES may think such thorough application will be apt to cause the grain or grass to "lodge" by producing such rank growth, but this is overcome by the large amount of silica contained in the ASHES, which gives to the straw a coating which stiffens it and at the same time gives it a stockier growth, not as tall, slender or weak as results from the use of manure, at the same time the farmer is rewarded for his labor by the return in his grain field of a plump, full berry.

## FOR CORN.

As a light top-dressing, five to seven hundred pounds can be used per acre to spread on top of the hills as soon as the corn is planted, covering from twelve to fourteen inches of the ground. I would not advise putting the ashes in the hill when planting the corn, as it might work injury to the seed. From one to two tons per acre could be spread broadcast over the field after ploughing and then harrowed in before ploughing. Top-dress the hills with from four to six hundred pounds to the acre. I think, however, the better way to apply ashes is to make a thorough application of from two to four tons, usually about two or three tons per acre, according to the condition of the soil, in the summer or early fall, by spreading broadcast over the field, thus giving the ashes an opportunity to leach down into the ground, killing all grubs and insects. Plough in the spring, harrow and plant as usual, and a glorious crop will be assured. Then, for the second year, I would advise turning over and plant with potatoes and top-dress with from five to seven hundred pounds per acre. At the second or third year sow wheat or rye and seed down to grass. The result will be a heavy crop of hay for many years. No further fertilizing will be needed for from eight to ten years. Such an application will work splendidly on sod land, the SILICA and POTASH in the ashes causing the corn to ripen easily, stand up well and prevent lodging.

## FOR POTATOES.

Unleached Ashes may be used in planting potatoes by applying from one thousand to two thousand five hundred pounds, scattered out well over the tops of the hill or drill, say from twelve to eighteen inches, just after the potatoes are covered, or half of that quantity can be put in the hill and mixed with the soil before the potatoes are planted, and afterwards a little quantity scattered well over the top of the hills or drills. But I think the better course to pursue would be in the fall before the ground freezes up, to apply from two to four tons of UNLEACHED ASHES, spread broadcast over the field; in the spring plough, harrow and plant the ground as in the usual way. With such an application the same field could be ploughed up in the fall, making the furrow a little deeper than in spring, which will bring the ashes to the surface again, seed down with wheat or rye to be cut the following year, resulting in an astonishing yield with a plump, heavy grain, to be followed year by year with an abundant crop of grass. And then, too, with so thorough an application of UNLEACHED ASHES in the fall, it will be found that the action of the alkalies brought out by the heavy rains and the melting snows has effectually killed the great pest of the potato field—the potato bug—and other insects so prevalent in some sections of our country. The most thorough tests prove that thirty-five dollars' worth of my UNLEACHED ASHES to the acre for potatoes, subsequently followed with the crops of grain and grass, lasted longer and gave better satisfaction than forty-five dollars' worth of New York stable manure.

## FOR SWEET POTATOES.

Spread broadcast from one to two tons of UNLEACHED ASHES for each acre in the fall or spring. After the plants are set apply over the hills, covering from twelve to fourteen inches surface, about one quarter pound to each hill, or say six to eight hundred pounds per acre, where no ashes are spread broadcast in the fall; then mix well in forming the hill, about one-third of a pound of the ASHES with the soil, as long as possible before setting out the plant, and apply over the hills as above denoted. It will be found that ASHES aid very largely in holding the moisture in light, sandy soils, growing a smooth, nice potato, and are not likely to be troubled with black spots or affected with the rot, as when grown with stable manure.

## FOR GRASS LANDS.

For lawns, meadows and pastures, from two to three tons per acre of UNLEACHED ASHES should be applied by spreading evenly in the fall or early spring. Unlike stable manure, no foul or noxious weeds infest the field or lawn by the application of UNLEACHED ASHES, and in seeding down there is scarcely ever a failure of a good catch, both in clover and other grass. If it is desirable to keep the field down to grass continually and at the same time improving, it can be done by top-dressing every year, soon after haying or early in the spring, with from six to eight hundred pounds of my Unleached Ashes per acre, but very good results will follow the first application for several years without the annual top-dressing. If the hay raised is for market the field should be plowed and the sod turned under, and re-seeded every eight or twelve years, otherwise the hay would become too fine for market hay, although for farm use just as good and in some cases better Timothy, wheat, rye, oats and onions and all crops that are not deep rooted, the nearer the top of the soil the ashes are kept the better. In lawns, where bare places occur, they should be raked over and strewn with lawn seeds, raked in and the whole top-dressed with Ashes. Two or three applications are sure to result in a fine growth of grass, free from noxious weeds. When these applications are made in the fall or early spring the lawn is better able to withstand the drouth from two to three weeks longer than by the use of any other fertilizer, but there is no doubt great good arises from applying the heavy top-dressing in the fall, of from six to eight hundred pounds per acre, which if kept up each year, will produce the finest grass that can be grown, and white clover comes in naturally.

## FOR TOBACCO.

I would advise a thorough application of my ashes, of from three to four tons per acre, spread broadcast in the fall, so as to give them the benefit of the early spring rains for the leaching process before ploughing. After setting out the plant one thousand to fifteen hundred pounds per acre can be used to scatter over the surface, covering from ten to twelve inches around the plant. When the ashes are applied in the spring two or three tons per acre would be all that could be safely spread; when the ashes are not applied until after the ground is ploughed, two tons per acre only would be safe to spread on and harrow in, and then for top-dressing the same quantity above named. I think, however, the safest and best way to apply UNLEACHED ASHES to tobacco is by a thorough application at first in the fall, thus insuring a good crop and the best quality the first year and a still better crop the second year, and the same results year after year, with only light top-dressing annually, or say one ton the second year, two tons the third year, about two and a half tons the fourth year and the land will never wear out, but will continue to improve and return better crops. The reasons for this are self-evident, for tobacco requires more lime than other ingredients, and it also requires large quantities of POTASH, MAGNESIA and SILICA, and these are found to exist in UNLEACHED ASHES more evenly and in the best proportion, and being free from chlorine are undeniably the best as well as the cheapest fertilizer for tobacco and for the land upon which it is grown. The outlay in ashes should be equal in amount to the outlay in money in manures, and the result will satisfactorily prove that UNLEACHED ASHES are the best and cheapest fertilizer for tobacco that can be produced, besides giving to the tobacco a fine, smooth, silken leaf, dries a good color, and when smoked burns a beautiful white ash, and sells in the market at from three to seven cents per pound higher than tobacco raised on lands enriched by other fertilizers containing little or no lime.

## FOR CABBAGE AND CAULIFLOWER.

From two to four tons of UNLEACHED ASHES per acre should be scattered broadcast very early in the spring or in the fall, and harrowed in, thus giving them good time to leach out into the soil before ploughing. After setting out the plant scatter about half a pint of ashes upon the ground around the plant. With such an application cabbage can be raised several years in succession on the same soil, resulting in the growth of a large solid head, and the soil will also be left in a splendid condition for other crops should a change be desired. If, however, cabbage should continue to be grown upon the same soil succeeding years, better results would be obtained should the land receive a top-dressing each year, or one ton the second year, and one and a half tons the third year, and two tons the fourth year, spread on in the fall or spring. In using lighter qualities one half pint of UNLEACHED ASHES can be worked in the soil before setting out the plant, and afterwards spread around the plant one half pound of ashes.

## FOR CUCUMBERS AND MELONS.

The quantity to be used will depend upon the condition of the soil, and when it is ascertained about how much stable manure in value it would be advisable to use, take about the same value in my UNLEACHED ASHES and spread broadcast in the fall or early spring, soon as the ground is ploughed, giving as much time for the ashes to work in the soil as possible before planting the seed. At this first application I would advise that about two tons per acre be used. After the hill has been formed and the seed planted it would be well to scatter about half a pint over the top of the hill. But if no ASHES are spread broadcast then work into the hill, when forming it, half a pint before planting the seed, and afterwards apply about one third of a pound scattered over the hill as soon as planted. ASHES will grow the best cucumbers and melons and keep them green and in bearing condition the longest of any fertilizer.

## FOR HOPS.

In applying UNLEACHED ASHES to hops much the same treatment should be observed as in the treatment of GRAPE VINES, the effect of which will be to render them fruitful each consecutive year. and producing crops of a beautiful color and free from insects. Those who have used ASHES in the culture of hops pronounce them UNEQUALED as a fertilizer.

## FOR COTTON.

A thorough application of from one to three tons per acre should be made and allowed to lay until copious rains have fallen, giving the POTASH, PHOSPHORIC ACID, LIME, MAGNESIA and SILICA an opportunity to leach out and thoroughly mix with the soil; then plough, harrow and plant or apply around the plant well scattered out.

## FOR ONIONS.

A very thorough application of UNLEACHED ASHES is necessary to insure a good crop of onions. From three to five tons of ASHES per acre should be applied in the fall, scattered broadcast and ploughed under just before the ground freezes up, and in the spring the field be again ploughed which will bring the ASHES to the surface; then harrow and plant seed. When such a THOROUGH APPLICATION is made the first year a ton only per acre will be required for the second, one and a half for the third and but two tons for the fourth, and after that three tons per acre is all that will be required. Lands treated in this way unfrequently yield from six to eleven hundred bushels per acre ; in some instances a hundred more bushels being harvested from a single acre than where stable manure was used. The onions raised upon the ashed land being almost free from smut, maggots and weeds.

# Condition of Ashes When Gathered.

My ashes are gathered from house to house in a dry condition and containing more or less charcoal (as all ashes do that are burned in stoves and fireplaces) and stored up in large ash-houses erected for that purpose, while those stored in bulk together, perhaps for months awaiting shipment, they go through first a heating process and then a heavy sweating process, during which the chemical action of the POTASH and LIME upon the charcoal dissolves or eats it up, so that when I ship the ASHES I find they have settled down about one-fifth from what they were when first gathered in. So after this heating process has taken place, while my ASHES have been diminished in bulk, they have become much more valuable and less bulky than home ashes, containing as they do large quantities of POTASH, LIME, PHOSPHORIC ACID and SILICA in a more concentrated form; and then having passed through this chemical change, while heating and sweating, they are in better condition for the needs and purposes of agriculture than when first gathered, as this process leaves them in a revertible form, so that the POTASH and some of the other constituents, are soluble at once, while the other elements are in a condition to be used by the plant and soil as required. For analysis see pages 25 and 26.

# TESTIMONIALS.

The following testimonials have been cheerfully given by parties who have used my UNLEACHED CANADA ASHES:—

MERIDEN, CONN.

CHAS. STEVENS, ESQ., Napanee, Ont.

DEAR SIR,—Please ship us another car-load of Ashes (unleached), same quality as last car. Ship them as quick as you can. The last car-load was fine.

Yours,

---

HOLYOKE, MASS.

CHAS. STEVENS.

DEAR SIR,—The Ashes you shipped me are all right. They analyse six per cent. of Oxide Potassium. We are thinking of buying another car-load for our own use and shall want it about April 1st. Come and see us, if not write at once.

Yours, etc.,

---

BETHEL, VERMONT.

MR. CHAS. STEVENS.

DEAR SIR,—The car of Ashes has arrived all right and I am well pleased with them. My neighbors are going to order a car-load or more of you soon.

Yours truly,

PATERSON, NEW JERSEY.

CHAS. STEVENS, ESQ., Napanee, Ont.

DEAR SIR,—I was well pleased with strength of Ashes and cleanness.

I remain,
Very truly,

---

NEW BEDFORD, MASS., May 14th, 1886.

CHAS. STEVENS, ESQ.

DEAR SIR,—The Ashes you sent me have arrived all right. I think they are the strongest I ever had. I shall order another car next fall.

Respectfully yours,

[The above parties bought another car-load in September last.]

---

RED HOOK, N. Y.

CHAS. STEVENS, ESQ., Napanee, Ont., Canada.

DEAR SIR,—Your Ashes are simply splendid. I want another car-load at once; send them along.

---

SOUTH FRAMINGHAM, MASS.

CHAS. STEVENS.

SIR,—Of the last car-load of Ashes I got from you I had a sample sent to Prof. C. A. Goessmann, of the Massachusetts Agricultural Experiment Station, to be analysed, and reports them a good sample indeed. Inclosed please find certificate of analysis. I will also state that wherever I have used them the crops look well. I shall want another car-load next spring.

Yours truly,

---

NORTH BERWICK, MAINE.

CHAS. STEVENS.

DEAR SIR,—The Ashes you sent me are satisfactory. Can you send me another car-load at same price. Answer.

Yours, etc.,

PORTSMOUTH, N. H., Oct. 20th. 1886.

CHAS. STEVENS, Napanee, Ont., Canada.

DEAR SIR,—The four cars of Ashes have all come to hand and have given good satisfaction, and they all held out. I shall want several car-loads for spring use, and you will hear from me again.

Yours respectfully,

————————

———

TAUNTON, MASS., April 3rd, 1888.

CHAS. STEVENS, ESQ., Napanee, Canada.

DEAR SIR,—Enclosed find check for $— for 16½ tons Ashes bought of you as per bill. They were a very fine lot of Ashes and overrun a few pounds in weight, for which please accept my thanks. I wish there had been 20 tons instead of 16½ as sent. When I want more I shall buy of you as they were entirely satisfactory.

Your respectfully,

————————

———

The above testimonials are not from paid agents, but simply taken out of letters sent me by parties who have used my UNLEACHED ASHES. I could keep on giving such testimonials as I have many such that I have not published.

## THE FOLLOWING IS THE UNSOLICITED TESTIMONY OF ONE OF THE BEST AGRICULTURAL JOURNALS PUBLISHED IN NEW ENGLAND.

Unleached Canada Ashes contain on an average 5.7 per cent. of POTASH and 1.2 per cent. of PHOSPHORIC ACID, thus it will be seen that the Ashes imported by Chas. Stevens, Napanee, Ontario, Canada, are much above the average in POTASH and PHOSPHORIC ACID, and contains less than 10 per cent. of sand and insoluble matter.—New England Homestead.

I would call the attention of GARDENERS, TRUCK-GROWERS and FARMERS to the great benefit arising from the use of my CANADA UNLEACHED ASHES as a fertilizer. Experiments have been made by those engaged in growing CABBAGE, SPINNAGE, ONIONS, CAULIFLOWER, RADISHES, SWEET POTATOES, STRAWBERRIES, BLACKBERRIES, WATERMELONS, CORN, TOBACCO, PEACHES, APPLES, PEARS, GRAPES, and in fact with almost all kinds of produce grown for market, and with the most remarkable results, as can be readily shown by testimonials now in my possession.

When "Wood Ashes" are spoken of as a fertilizer, most persons at once have their thoughts turned to the Potash they contain and regard them as a special fertilizer; but they really contain all the ingredients of plant food. Few commercial fertilizers have as large a percentage of Phosphoric Acid and Potash as Unleached Ashes. It is not generally understood the amount of wood that is consumed in the production of 100 pounds of hardwood ashes, and many will be surprised to learn that it takes about 2½ cords of hardwood to make 100 lbs. of ashes, which represent as near as may be as follows:

| | |
|---|---|
| Potash (pure) | 7.50 lbs |
| Equivalent to common or crude Potash | 12.00 " |
| Magnesia (Oxide) | 3.50 " |
| Calcium Oxide (wood or vegetable lime) | 40.02 " |
| Soda | 3.60 " |
| Phosphoric Acid | 2.50 " |

It should be remembered that the lime above referred to is vegetable, and is worth five times that of stone lime.

## VIRGIN SOIL AND WOOD ASHES.

In the tobacco districts of Virginia and elsewhere we find it a very common practice to raise the tobacco plants on a patch of ground in the woods, after heaps of brush or logs were burned upon it. The plants have the advantage of new ground and of the stimulating properties of fresh WOOD ASHES and generally grow luxuriantly.

We have just been told of another instance of the fertility which virgin soil sometimes exhibits under the stimulating effects of WOOD ASHES. In one of the southern counties of this State a citron (watermelon) plant grew on the exact spot where the boys, only a few weeks before, had built a big bonfire. This plant produced one hundred and twenty-five citrons of marketable size, besides a large number of small ones. The story comes so well authenticated that we cannot doubt its correctness without violating the rules of common politeness and gentlemanly behaviour.

# Canada Wood Ashes.

I am often asked in regard to my UNLEACHED ASHES, "Where do you get so many of them?" No doubt it seems strange to parties, where comparatively very little or no wood is burned, that hundreds of cars of six hundred to nine hundred bushels could be procured every year. Some look with distrust on the whole thing, pronouncing it a "mixed up mess" got up to sell.

To all such I beg to say: That I have erected large storehouses, at stations along the Trunk railway lines, and I keep a large number of men and horses employed collecting the ASHES from farmers, villages, grist mills, factories, etc. And right here I wish it distinctly understood that I buy no ASHES from tanneries and such places where the refuse of tanbark is burned.

Another thing puzzles a great many. I guarantee more than twice the strength of any ASHES made of wood grown in many States. There are two reasons for this. One is the character of the soil, it being rich and full of POTASH, in which element most of the land in the older States is deficient. The other is the fact that nearly all the ASHES are made from first-growth wood. These ASHES contain all the elements required for plant food, and having once been used, are all again available, there being no waste, but are come to stay by you. My sales last year were double any previous season, selling as much as 90 tons to one farmer alone for his own private use.

For prices and all other information, address

CHAS. STEVENS,
**Box 437, Napanee,**
**Ontario, Canada.**

# ANALYSIS.

Massachusetts Agricultural Experiment Station.
AMHERST, MASS., Aug. 31st, 1886.

Mr.———

DEAR SIR,—The results of analysis of the sample of Ashes sent on by you, is as follows:—

| | | | |
|---|---|---|---|
| Moisture at 100 ° C | 5.10 | per | |
| Total Phosphoric Acid | 1.30 | " | ' |
| Magnesium Oxide | 3.24 | " | " |
| Calcium Oxide (Lime) | 39.05 | " | " |
| Potassium Oxide | 5.76 | " | " |
| Insoluble matter | 9.20 | " | " |

The Ashes are a very good article, the Potash, which is the principle constituent in Wood Ash, being well up to the average. For comparison with other analysis made at the station, I refer you to the 1st, 2nd and 3rd annual reports of the station.

Very respectfully yours,

C. A. GOESSMANN.

The above sample was taken from a car-load sold to a gentleman at South Framingham, Mass., he having bought two car-loads from me, one in March and one in May, 1886. See his testimonial under South Framingham, Mass.

### SAMPLE NO. 2.

Sold to a farmer in Vermont, and he wrote me in making returns for same, that the Ashes were number one, and that they eat all the paint off his sleigh in drawing them home. Notwithstanding that the weather was so cold (it being in midwinter) the Ashes were hot in taking them out-of car, thus showing that they were as represented—Unleached and of best quality.

| | Per cent. |
|---|---|
| Potassium Oxide | 7.24 |
| Phosphoric Acid | 2.72 |
| Calcium Oxide (Wood Lime) | 36.60 |
| Magnesium Oxide | 7.29 |

I clip the following from the Connecticut Experiment Station report on the VALUE of ASHES:—

The value of Ashes is not exclusively or chiefly in the PHOSPHORIC ACID and Potash they contain. Their action on the soil is largely indirect as an amendment. The determinations of POTASH and PHOSPHORIC ACID serve to show, however, whether the sample is of usual quality. UNLEACHED CANADA ASHES on an average 5·7 per cent. of Potash and 1·2 of PHOSPHORIC ACID. Ashes made largely from the Hardwoods are somewhat richer in both PHOSPHORIC ACID and Potash.

By the above statement, coming as it does from the Agricultural Experiment Station, of Connecticut, it will be plainly seen that my Ashes have a larger per cent. of PHOSPHORIC ACID than the average CANADA UNLEACHED ASHES. My UNLEACHED HARDWOOD ASHES contain over seven per cent. of OXIDE of POTASSIUM, which is equivalent to twelve per cent. of common or crude Potash.

## ANALYSIS OF UNLEACHED ASHES

Taken from different parts of the State of Massachusetts.

| | 1. | 2. |
|---|---|---|
| Moisture.................... | 1.78 per cent. | 2.26 per cent. |
| Potassium Oxide (Potash).. | 2.90 “ “ | 3.26 “ “ |
| Sodium Oxide.............. | Not determined | 1.83 “ “ |
| Calcium Oxide (Wood Lime) | 4.84 per cent. | 20.29 “ “ |
| Magnesium Oxide.......... | 3.15 “ “ | Not determined |
| Phosphoric Acid........... | 1.55 “ “ | 1.28 per cent. |
| Insoluble Matter........... | 63.93 “ “ | 35.15 “ “ |

The above analysis is taken from the thirteenth annual report of the State Board of Agriculture, of Massachusetts, of 1882, from page 409, which gives the analysis of two samples of Unleached Ashes from different parts of that State, and by comparing them with the analysis of my Canada Hardwood Unleached Ashes the great difference between the State Ashes and those exported by me from CANADA in POTASH, PHOSPHORIC ACID, LIME, INSOLUBLE MATTER, will at once be seen.

AFTER ALL THE BEST ANALYSIS OF ANY FERTILIZER ARE THOSE SECURED BY THE FARMER IN LARGE CROPS.

# VEGETABLE ANALYSIS.

The following analyses show the quantity of the elements which are taken from the soil and atmosphere by the average crops, as here given. It will readily be seen that my Unleached Wood Ashes contain and furnish to the soil all the elements required in the cultivation of these several crops:—

## POTATOES.

| One hundred bushels and tops | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 179.00 |
| .. .. .. | Phosphoric Acid | 52.00 |
| .. .. .. | Lime | 60.00 |
| .. .. .. | Sulphuric Acid | 29.00 |
| .. .. .. | Ammonia | 22.50 |
| .. .. .. | Magnesia | 19.00 |
| .. .. .. | Silica | 53.00 |

## TOBACCO.

| One ton of tobacco leaf and stem as grown | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 147.00 |
| .. .. .. | Phosphoric Acid | 17.00 |
| .. .. .. | Lime | 178.00 |
| .. .. .. | Sulphuric Acid | 19.00 |
| .. .. .. | Ammonia | none |
| .. .. .. | Magnesia | 50.00 |
| .. .. .. | Silica | 46.00 |

## WHEAT.

| Twenty-five bushels wheat and straw to the acre | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 36.00 |
| .. .. .. | Phosphoric Acid | 27.00 |
| .. .. .. | Lime | 14.00 |
| .. .. .. | Sulphuric Acid | 7.00 |
| .. .. .. | Ammonia | 52.00 |
| .. .. .. | Magnesia | 20.00 |
| .. .. .. | Silica | 145.00 |

## CORN.

| One hundred bushels, ears and stalks | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 180.00 |
| .. .. .. | Phosphoric Acid | 79.00 |
| .. .. .. | Lime | 48.00 |
| .. .. . | Sulphuric Acid | 23.00 |
| .. .. . | Ammonia | 81.00 |
| .. .. .. | Magnesia | 35.00 |
| .. .. .. | Silica | 168.00 |

## COTTON.

| One ton cotton fibre, seed and stalk | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 154.00 |
| .. .. .. | Phosphoric Acid | 60.00 |
| .. .. .. | Lime | 71.00 |
| .. .. .. | Sulphuric Acid | 16.00 |
| .. .. .. | Ammonia | none |
| .. .. .. | Magnesia | 44.00 |
| .. .. .. | Silica | 15.00 |

## CLOVER HAY.

| One ton of clover hay | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 40.00 |
| .. .. .. | Phosphoric Acid | 10.00 |
| .. .. .. | Lime | 38.00 |
| .. .. .. | Sulphuric Acid | 4.00 |
| .. .. .. | Ammonia | 26.00 |
| .. .. .. | Magnesia | 11.00 |
| .. .. .. | Silica | 10.00 |

## OATS.

| Fifty bushels of oats per acre, and straw | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 14.00 |
| .. .. .. | Phosphoric Acid | 16.00 |
| .. .. .. | Lime | 10.00 |
| .. .. .. | Sulphuric Acid | 10.00 |
| .. .. .. | Ammonia | 45.00 |
| .. .. .. | Silica | 48.00 |

## RYE.

| Thirty bushels rye per acre and straw | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 33.00 |
| .. .. .. | Phosphoric Acid | 22.00 |
| .. .. .. | Lime | 14.00 |
| .. .. .. | Sulphuric Acid | 21.00 |
| .. .. .. | Ammonia | 43.00 |
| .. .. .. | Magnesia | 7.00 |
| .. .. .. | Silica | 98.00 |

## BARLEY.

| Thirty bushels barley and straw per acre | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 33.00 |
| .. .. .. | Phosphoric Acid | 15.00 |
| .. .. .. | Lime | 10.00 |
| .. .. .. | Sulphuric Acid | 7.00 |
| .. .. .. | Magnesia | 6.00 |
| .. .. .. | Ammonia | 41.00 |
| .. .. .. | Silica | 77.00 |

## TURNIPS.

| Twenty tons turnips per acre | | lbs. |
|---|---|---|
| Take from the soil and atmosphere, | Potash | 140.00 |
| .. .. .. | Phosphoric Acid | 43.00 |
| .. .. .. | Lime | 90.00 |
| .. .. .. | Sulphuric Acid | 50.00 |
| .. .. .. | Ammonia | 42.00 |
| .. .. .. | Magnesia | 14.00 |
| .. .. .. | Silica | 53.00 |

## PEACH TREES AND THEIR FRUIT.

One ton fruit takes from the soil and atmosphere about as follows:

| | One ton peach wood. | One ton fruit. |
|---|---|---|
| Potash | 25 lbs. | 52 lbs. |
| Phosphoric Acid | 11 " | 11 " |
| Lime | 52 " | 2 " |
| Magnesia | 7 " | 6 " |

Silica, Iron and Soda are not given in this statement, but large amounts are required in their growth. Only a small quantity of Sulphuric Acid being required, and large quantities would be injurious to the tree. Ammonia should not be applied if the health and bearing of the tree is the object aimed at.

# PRACTICAL FACTS.

## SOILS MOST BENEFITED BY WOOD ASHES.

Prof. K. C. Kedzie, of the Agricultural College, of Michigan, says:—

"Among the most common and the most valuable of special manures, I place Wood Ashes. The amount of ash and its relative composition vary with the kind and part of vegetable burned. Discarding Ashes of mineral coal as valueless for manure, I may say in general terms that the Ashes of wood and of land plants of every kind are of value for manures on every kind of soil which has been reduced by cropping. The greatest benefit, however, is shown upon sandy and porous soils. On these "light soils" crops of every kind, but especially root crops and corn, will be benefited by a dressing of Wood Ashes. Fruit trees and fruit-bearing plants, having a woody structure, will be benefited by Wood Ashes. Thirty to fifty bushels to the acre of fresh Ashes will be a full dressing, and three to four times that amount of Leached Ashes may be applied with permanent benefit."

For purposes of direct comparison I submit the following table of results of analysis:—

| | Hard-wood. | Leached. | Soft wood. | Corn cob. | Tannery. | Soft coal. | Hard coal. |
|---|---|---|---|---|---|---|---|
| Soluble in Hydrochloric Acid.... | 93.00 | 89.00 | 50.00 | 70.00 | 45.00 | 18.00 | 4.50 |
| Insoluble in Hydrochloric Acid.... | 7.00 | 11.00 | 50.00 | 30.00 | 55.00 | 82.00 | 94.50 |
| Potash........... | 12.25 | 1.60 | 12.00 | 45.00 | 2.50 | 0.20 | 0.10 |
| Phosphoric Acid. | 6.00 | 6.80 | 4.00 | 4.50 | 1.20 | 0.14 | 0.05 |
| Salts of Lime and Magnesia ...... | 70.00 | 74.00 | 32.00 | 20.00 | 41.00 | 5.00 | 2.50 |
| Value per ton (2,000 lbs)........... | $20.00 | $10.40 | $16.80 | $50.00 | $4.50 | $0.40 | $0.16 |

"Based on the above analysis of Ashes, similar samples of Hardwood Ashes would be worth $20 per ton, of Leached Ashes $10.40 per ton, and of Soft Wood Ashes $16.80 per ton. Corb-cob Ashes would be worth $50 per ton, tannery Ashes $4.50, Soft-coal Ashes forty cents and Hard-coal Ashes sixteen cents per ton."

"EVEN WHEN ASHES HAVE BEEN LEACHED to the last degree till every soluble thing has been washed away they still have value, for the Phosphate and Carbonate of LIME and MAGNESIA remaining, and they are worth thirty-four cents for one hundred pounds, or $6.80 per ton. The market gardeners of Long Island knew their value and sent ships one thousand miles to bring the ashery heaps of Maine, even when they had to draw them five miles before reaching the ship, but I will not consume your time to tell you how they do things down east, but will give my experience with Leached Ashes in Eaton County. More than thirty years ago I settled in Vermontville, and bought a lot for a home, or, as I expressed it to my wife, "I fenced in 2½ acres of paradise." The soil was a stiff boulder clay, and had been exhausted by a rotation, consisting of wheat stubble and wheat. Here I planted every fruit-bearing tree and shrub of superior value, and in the selection of fruits "I withheld not my heart from any joy." I kept a cow and three horses, for in the thinly settled county horse flesh had to bear the brunt of hard work. I had plenty of stable manure and used it freely, but I soon found that the excess of stable manure gave my pear trees the fire blight, made my apples run to water sprouts and suckers, and my grapes run wild in wildwood. I then turned my attention to a heap of Leached Ashes near by, and had seventy-five to eighty tons of these Ashes scattered over my field. No more fire blight or water sprouts, but golden fruit in bountiful supply, like my ever-so-great grandfather Adam. I left my paradise, which passed through several hands, and at last came in possession of Mrs. B. in exchange for a one hundred and sixty acre farm. Her son told me that she received more money from the sale of fruit, from that 2½ acre lot, than she received from the one hundred and sixty acre farm. The soil has not forgotten that liberal dressing of Leached Ashes, applied more than twenty-five years ago. Apply Ashes liberally, especially if your soil is open and porous."

He also says, in regard to strawberry beds:

"If the ground is in good condition, I should use little else than Unleached Ashes."

Again, in reference to German Potash Salts, which are used on Jersey sands, "Better pay a dollar a bushel for good Wood Ashes."

## OPINION OF PROF. C. A. GOESSMANN.

In his report on ASHES, Prof. Goessmann says:—

"The universal high opinion of WOOD ASHES, as a fertilizer, does not depend merely upon a fair percentage of Potash, but also on the presence of more or less of all the various mineral elements essential to the growth of plants. Wood Ashes, like barn manure, on account of their compound character, meet to some extent at least not only known, but unknown deficiencies in valuable soil constituents. The thorough mixture of their various constituents has, no doubt, a beneficial influence on their action."

The "Field Book of Manures," published by Saxton, Barker & Co. of New York, makes this allusion to ashes:—

"Ashes, or Ash, as they are sometimes called, consist of the earthy and saline matters of soil, vegetable and animal substances after they are burnt, the use of which, as a fertilizer, may be traced back to a very early age. The Romans were well acquainted with paring and burning, and burnt their stubble, a practice also among the ancient Jews. Cato recommends the burning of twigs and branches of trees, and spreading the ash on the land. The ancient Britons, according to Pliny, used to burn their wheat-straw and stubble, and spread the ashes over the soil, and Conradus Heresbachius, a German counselor, in his "Treatise on Husbandry," published in 1570, and afterwards translated by Barnabe George, Esq., tells us that in Lombardy they like so well the use of ashes, as they esteem it far above stable manure, thinking dung not meet to be used for the unwholesomeness thereof.

Oranges, it is said, that are grown upon pine lands, are of superior quality. It is an open secret that the best land in Florida, even the hammock lands after a few years become exhausted of the necessary ingredients in the soil to produce good fruit, and these ingredients must be supplied by artificial means if large crops are to be produced, and this leads us to the question: What is the best and most

## NATURAL FERTILIZER

that can be used with the best results? Our unhesitating reply is

## UNLEACHED CANADA WOOD ASHES!

from the granite soil of the hitherto unbroken forests of Canada.

Frequently parties have said to us, we do not need fertilizers as my grove is located upon hammock lands. Now this is certainly an error, for it is not uncommon to visit hammock lands growing large and elegant trees, but bearing a small quantity and a poor quality of fruit. The causes for this are that the heavy croppings of preceding years have absorbed from the soil certain essential elements such as Potash, Phosphoric Acid, Lime, Magnesia, Soda, Silica, Sulphuric Acid and Oxide of Iron.

It cannot be expected that the orange tree will annually bud and bear large crops of oranges unless they are regularly supplied with "plant food" similar in its elements to that which has been taken from the soil. Therefore all will readily admit that the substances that are taken from the soil each year must be returned to it in some form or failure is the result.

In order that all may see at a glance what elements are required to be taken from the soil in the growth and culture of oranges, we submit the following "Analysis of the Orange Tree."

| | Root. | Stem. | Leaves. | Fruit. | Seed. |
|---|---|---|---|---|---|
| Potassa................ | 15.53 | 11.69 | 16.51 | 36.42 | 40.28 |
| Soda.................... | 4.52 | 3.07 | 1.68 | 11.42 | 0.92 |
| Lime .................. | 49.89 | 55.13 | 56.38 | 24.52 | 18.97 |
| Magnesia .............. | 6.91 | 6.34 | 5.75 | 8.06 | 8.74 |
| Sesquioxide of Iron..... | 1.02 | 0.57 | 0.52 | 0.46 | 0.80 |
| Sulphuric Acid......... | 5.78 | 4.64 | 4.43 | 3.74 | 5.10 |
| Silica Acid............. | 1.75 | 1.22 | 4.83 | 0.44 | 1.13 |
| Phosphoric Acid....... | 13.47 | 17.08 | 3.27 | 11.07 | 33.24 |
| Chloride of Sodium..... | 1.18 | 0.95 | 6.66 | 3.87 | 0.82 |

We also take from the Connecticut Agricultural Experiment Station, New Haven, Conn., Bulletin No. 87, March, 1886, the subjoined analysis of a fine sample of orange fruit, gathered in its best condition about the first of January, and furnished by Mr. T. W. T. Curtiss, of New Haven, from his grove in Florida, has been made in order to ascertain what is carried off the land in the orange crop. The analysis includes the whole fruit as it comes into market.

| | |
|---|---|
| Water (with some volatile oil) expelled at 212° ............. | 85.29 |
| Organic* and volatile matter (lost at low red heat)........... | 14.27 |
| Ash (reckoned free from carbon and carbonic acid).......... | .44 |
| | 100.00 |

## THE ASH CONTAINS

| | |
|---|---|
| Potash | 56.44 |
| Soda | 1.81 |
| Lime | 18.70 |
| Magnesia | 4.72 |
| Oxide of Iron | .50 |
| Phosphoric Acid | 13.28 |
| Sulphuric Acid | 4.15 |
| Silica | .40 |
| | 100.00 |

The oranges in a single box, exclusive of the case and packing, weighed 64.5 pounds. The yield per acre was 100 boxes, or 6,450 lbs. of fruit. The export per acre in this crop is accordingly as follows:—

| | |
|---|---|
| Nitrogen | 9[illegible] lbs. |
| Potash | 130 " |
| Soda | 05 " |
| Lime | 53 " |
| Magnesia | 14 " |
| Oxide of Iron | 00 " |
| Phosphoric Acid | 38 " |

## WOOD ASHES AS A FERTILIZER.

The Massachusetts Ploughman says:—

There are few if any fertilizers in the market that possess so many desirable qualities as good Wood Ashes, being rich in Potash, and having a fair proportion of Phosphoric Acid. They supply two important materials that is deficient in most soils. But there are other important elements that are not only beneficial, but important for plant growth. Wood Ashes contain large quantities of Lime, not Stone Lime, but Lime that is finer and more soluble; it having once been in a condition to enter plants, it again readily comes into a condition to be taken up by growing plants, much more so than the common Stone Lime. Ashes contain two other important elements, namely, Magnesia and Silica. These are both necessary for plant growth, and like the Lime, they are in the right condition to be readily taken up by the growing plants. In fact, Wood Ashes being the mineral elements of vegetation, they contain all of the mineral elements of the growth of other vegetation, and that, too, in the best possible condition, because having been once taken up by growing vegetation, they have been divided into small particles, and made soluble in water, and they readily return to the same condition again. This is an important fact that is generally overlooked.

A fertilizer may be well supplied with important elements of plant food, yet be in such condition as to be of no possible use to the growing plants for several years after it is applied. If the farmer could be sure of getting good pure Wood Ashes at the price usually charged, it would be for his interest to buy them for almost any crop he grows on his farm. While the benefit the first year may not be as much as some other fertilizers, the second and four or five following years the benefit on many soils is great. The doubt about the quality has deterred many from buying Ashes in large quantities. While there are some Ashes analyzed worth from 30 to 40 cents a bushel, there are others that will not analyze worth more than half as much. If some way could be devised by which the price could be fixed to correspond with the quality to a positive certainty, the farmer would feel that he was getting his money's worth, but as long as he has to buy as he now does, he will be very likely to think he is being cheated, when in point of fact he is getting more value than he pays for.

## ASHES AS A FERTILIZER.

The Brattleboro Household says :—

Ashes are too much wasted by many farmers who do not seem to appreciate their importance as manure. They are among the best fertilizers that can be applied either directly to the land or mixed with the compost. They are beneficial to all crops, and this has been found to apply even to Coal Ashes, which, in themselves, have but little manurial value; but the reason that even these are so useful, is that they absorb and retain moisture. Independent of the Potash that Wood Ashes contain and which makes it such a valuable manure, an application of it renders the ground porous and keeps it cool and moist. Farmers cannot be too careful to save it and spread it over their lands. Upon sandy lands we consider it equally as valuable, pound for pound, as guano.

# THE AMERICAN TRADE IN CANADIAN ASHES

The London, Ont., Free Press says :—

The leading agricultural papers of the Northern States contain advertisements of the following character :—

" Canada Hardwood Unleached Ashes, in car lots, 14 to 17 tons. This being our only business our long experience enables us to guarantee the quality to be the 'best.' Price and pamphlet sent on application to ———."

With all our Farmers' Institutes, Agricultural Colleges, and the dissemination of agricultural knowledge through the press, we find one of our most valuable manures sold by farmers to peddling ashmen. Every winter loads and loads of ashes may be seen coming along our concession lines driving into the city to be shipped to the different distributing centres in the United States. How often have our farmers to be told that Wood Ashes amongst mineral manures stand unequalled. In a country like Canada, where wood is the fuel, farmers have the means of collecting every year large quantities of Wood Ashes. Indeed, it will pay a farmer to give 15 and 20 cents a bushel for them. If dealers in New York State can freight Ashes all the way from Canada and build up a large business, and then sell them to advantage to American farmers, what could the farmers in Canada make out of them by getting them at first cost. These Canadian Ashes are sold to the Yankee farmer. By chemical analysis it is found that Wood Ashes contain in a large proportion most of the essential elements necessary to plant life, with the exception of ammonia. On the continent of Europe the value of Ashes and their powerful effect, especially upon young clover, is fully recognised. In Germany grass lands are kept in a high state of productiveness by the exclusive use of this manure—indeed, Ashes contain all the inorganic elements of plant life. The chief and most important of these necessary to plant life are Potash and earthy Phosphate. It appears that all the farmers in the world know the value of Ashes except those where they are the most plentiful. The Flemish farmers know by experience that when clover is not manured with Dutch Ashes at the rate of 19 bushels to the acre the following crop is generally bad, notwithstanding any culture that may be given the soil; whereas they always have an excellent crop of wheat after clover, and doubtless in proportion to the quantity of manure above mentioned being used. Good Wood

Ashes weigh about 45 lbs. to the bushel—of this 6¾ lbs. are soluble in warm water. Of the soluble constituents of Unleached Wood Ashes there are a little more than 4½ pounds of Potash and Soda, the remainder being the Sulphuric, Muriatic and Carbonic Acids, with which the alkalies are combined.

Forty-three pounds are insoluble in water, and consist of—

| | |
|---|---|
| Carbonate of Lime | 32 pounds |
| Phosphate of Lime | 3 " |
| Carbonate of Manganese | 4 " |
| Silicate of Lime | 3 " |
| Oxide of Iron and Manganese | 1 " |
| | 43 pounds |

In leaching the only change in Ashes is in removing the soluble portions and adding about one pound of quicklime per bushel. There is not much change in bulk, but considerable addition to the weight from the quantity of water absorbed. However, there are hardly any Leached Ashes to be had in this vicinity now, as soap-makers use Commercial Potash and Soda instead of Ashes. And this is a point farmers should understand, that the Ashes which they sell now are not used by soap-makers, but shipped to the other side for agricultural purposes.

As to the commercial value of the Ashes before and after they are leached, the following is a fair computation:—

| | |
|---|---|
| 4½ lbs. of Potash, 6c. per lb | 27 cents. |
| Other soluble constituents | 3 " |
| 32 lbs. Carbonate of Lime | 3 " |
| 3 lbs. Phosphate of Lime | 6 " |
| Silica | 0 " |
| Iron and Manganese | 0 " |
| | 39 cents. |

This estimate gives the value per bushel of Unleached Ashes at 39 cents. By leaching, 30 cents of the commercial value is removed. This leaves a bushel of Leached Ashes worth 9 cents for its fertilizing constituents, though there should be added silicates, which have no commercial value, but are useful as plant foot.

A bushel of Unleached Ashes judiciously employed will return in most seasons sixty or seventy cents worth of produce. The Leached Ashes are also worth more to the farmer than nine cents per bushel.

Of course something depends upon the nature of the land upon which Ashes are applied, being specially beneficial to the lighter soils such as have been deprived of their phosphates. In fact there is hardly any crop but is benefited more or less by an application of 40 to 75 bushels of Unleached Ashes to the acre, and as high as 200 or 300 bushels of leached. They are a most efficient application to corn and potatoes--meadows we have mentioned before. With regard to their value for a potato crop we give the experience of a prominent farmer who made some experiments with Hardwood Ashes and Bone Phosphate side by side. The experiments were made on about half an acre of Early Rose potatoes in the following manner:—In two rows when planted he put about a gill of Phosphate; in the next two the seed was planted without any fertilizers in the hill; in two rows next to these he put a gill of Hardwood Ashes in the hill, and thus the operation was repeated on the piece. When he dug the potatoes he found the rows in which the Ashes were put to produce the largest and the most in quantity; the rows in which Phosphate was put produced a fair quantity, but they were not so smooth and large as the rows containing Ashes; the rows that simply drew their nourishment from the soil alone produced quite a quantity, but nearly one-half of their potatoes were too small to cook.

## COMMERCIAL FERTILIZERS.

The Mirror and Farmer, of Manchester, N. H., says:—

Probably the most perplexing question that most farmers meet in the spring are those in regard to commercial fertilizers. Ordinarily a farmer can decide without much difficulty what he will plant and how many cows he will summer, and what pigs he will keep, and there is no doubt as to the wisdom of collecting and applying all the stable manure he can get; but whether to buy commercial fertilizers, and, if any, how extensively, what brands are best, and on what crops are they most profitable, are questions that plague the wisest, and with the great majority who know very little about the many facts on which correct answers depend, the best they can do is to guess upon the subject. One great trouble has been that chemists, professors, and even scientific experimenters, who have attempted to furnish information which would enable a farmer to decide intelligently upon all these fertilizer questions, have dealt so much in technical terms and supposed facts, or facts which they deduce from formulas, that they have confused rather than enlightened the common farmer and left him quite as much in the dark as when they found him.

The principal sources from which we obtain Potash for agricultural purposes are the German Muriates, Sulphates and Kainates, and Wood Ashes. The cost of Potash in these combinations varies from year to year, but at the lowest figure is above seven cents a pound in sulphate.

Both Muriate and Kainate have salt in their composition, and this is considered injurious to some crops, especially tobacco and potatoes whose quality it injures; and Mr. Gregory says he has found it dangerous to apply Kainate in the hill upon small seeds.

Wood Ashes are our great home source for Potash, and most of them sold in the markets come from Canada. They contain not only Potash but Phosphoric Acid, both in excellent condition for plant food.

## UNLEACHED ASHES FOR SANDY SOIL.

A barren sand can be made fertile by the application to it of Unleached Wood Ashes and be kept up with light dressings of Ashes and seeding occasionally with clover to plough under as an addition to such soil, for its organic matter and nitrogen. Clover is always sure to grow and do well where good Unleached Ashes are used.

## THE BEST FERTILIZER.

Perley Poor, in Rural New Yorker, says:—

I have found Unleached Wood Ashes, brought from Canada, valuable for restoring to long cropped grass lands the necessary ingredients of which they had been gradually deprived. I used two tons to the acre, and when I have added a bountiful supply of barn-yard manure, I have obtained a large crop of winter rye, with a good start of herd grass and red-top sown in the fall with the rye. How long the land will produce good crops of grass I cannot yet say. Leached Ashes are deprived of nearly all their Potash and Soda, and of all their Acids, except the Phosphoric. They should never be used on a damp soil, and I place no great value on them. Peruvian guano has a magical effect upon root crops, vines or vegetables, when judiciously applied. But its effects are like those of a glass of old Jamaica-rum on a tired man—bracing him up for a time and then leaving him enervated and played out.

# UNLEACHED WOOD ASHES.

The Orchard and Garden says:–

The queries:—"What can I afford to pay for Wood Ashes?" and "How many bushels of Wood Ashes per acre can I safely apply to the orchard?" are addressed to us so frequently that we must enter somewhat into the details of the question.

One hundred pounds of Unleached Hickory Ashes contain 7.54 pounds of Potash and 2.19 pounds of Phosphoric Acid. (Analysis by Prof. Johnson.)

The "New Schedule of Trade Values, adopted by the Experiment Stations for the season of 1886," reduces the price per pound of Potash (in high grade sulphate) from 7¼ to 5½ cents, that of soluble Phosphoric Acid from 9 to 8 cents. Hence we have in the one hundred pounds of Hickory Ashes about 41½ cents worth of the two ingredients. This, with about eight cents worth of Magnesia, Lime, Soda, etc., fixes the commercial value of the ashes at 67 cents per 100 pounds, or about 30 cents per bushel. Best household (Hardwood) Ashes Unleached are worth a little above this figure. This fixes their theoretical (chemical commercial) value. Their practical (agricultural) value is very much higher.

In the light of the established prices of high grade phosphates and other chemical manures, BEST HOUSEHOLD ASHES MUST APPEAR CHEAP AT $17 PER TON, OR 38 CENTS PER BUSHEL.

How much to apply per acre? That, of course, depends on circumstances. Old trees need more than younger ones, bearing trees more than barren, peach and apple trees more than cherries. It is said that a ton of peach wood contains 26 pounds of Potash and 4 of Phosphoric Acid; and a ton of peaches 74 pounds of Potash and 12 of Phosphoric Acid. If this be true, ten tons of peach fruit (a fair but not excessive crop) would remove from an acre 740 pounds of Potash, and to replace this amount by the application of Wood Ashes would require not less than five tons of such manure. In fact, there is little danger of growers putting too much of it in the orchard. The manner of applying it (not the quantity) may sometimes prove injurious. Ashes must be evenly distributed over the surface of the ground, not put in heaps under the trees. We would consider three tons for peaches, two for apples, pears or plums, and one for cherries, a fair dressing per acre, but we greatly doubt that even three times that quantity, properly applied, would injure the trees.

# WOOD ASHES THE BEST.

The Rural New Yorker says:—

Unleached Wood Ashes are always good as a fertilizer. There is no question about that. But because they do not in some instances produce good crops, should the farmers condemn them? Evidently not. Bone used alone may in many cases produce a paying increase in yield; in others the effect may not be appreciable. Does this prove anything against bone as a fertilizer? Suppose we use both bone and Ashes. In the experiments where neither proved hopeful, both may prove of high value. When both fail we should not condemn Ashes and bone as valueless. Let us add Nitrogen in some form. Then we have the essential parts of FARM MANURE. If this combination fail to increase the crops it will be because the land is already rich or because there is too little rainfall to render them available.

# A GROWING INDUSTRY

The Napanee, (Ont., Canada) Express says:—

It is generally known that our townsman, Mr. Chas. Stevens, is doing quite a trade in Unleached Ashes. Daily his teams are seen passing along the streets of our town, with loads of Ashes, gathered from the various farm houses in the county. And the amount gathered in this way in this section, we understand, does not begin to represent the extent of his business. He has storehouses erected at different points on the railways, in which is stored Ashes gathered in the several sections. From this place, or from his various storehouses, he is shipping almost daily. His business lies chiefly with the New England States, although he ships to other sections. Last week a car-load was shipped to Florida.

It is a puzzle to some where the Ashes all come from. This is easily understood when it is known that they are gathered from the various farmers and villagers—"in a personal canvass," as the politician would put it—none being gathered from factories where tanbark or other refuse is used for firing. This, our townsman claims, is one of the great secrets in the production of a good article.

Mr. Stevens has given much attention to this business, and he believes he has it now down fine. His Ashes he claims are cared for in the best possible manner, and being carefully selected, are number one for fertilizing purposes. The growth of his business he attributes largely to advertising. as all do who succeed to any great extent. As an instance of how he values this medium of reaching the public ear, we may state that a few days ago he made a contract with one man for $225.

## THE YELLOWS

The Orchard and Garden says :—

"Dying with the yellows," said the individual in the seat next to me, as he pointed to a peach orchard, near which our train was passing rapidly. "Dying with the yellows," exclaims the grower, when he sees the leaves of the trees turn to that color. "Dying with the yellows." You hear it wherever peaches are grown and see it in every paper which publishes fruit reports. It is an ever ready excuse and a handy reason.

But what is it? Nothing but genuine, unadulterated starvation. The seat of the disease is in the soil, not in the tree, and should be treated accordingly.

Potash is the one element of plant food which is most generally scant in orchards, and where Wood Ashes can be had in sufficient quantities, a better remedy for the "yellows" need not be looked for. But the best cure for yellows, as an Irishman would say, is not to have it; or in other words, the old adage of an ounce of prevention is worth a pound of cure applies with superlative force to starvation or yellows in peaches.

Moral :—Apply the Ashes before the trees become sickly

# FOR LAWNS AND MOWING LANDS.

## To Secure and Maintain Beautiful Lawns use Unleached Hardwood Ashes.

### For the following reasons.

1st. ——They are nature's complete fertilizer.
2nd——They are healthy for man and beast.
3rd.——They last from 15 to 20 years in the soil.
4th.——They make new soil out of worn out lands.
5th.——They do not make the lawn an unsightly object.
6th.——They produce no unhealthy or disagreeable odors.
7th.——They are easier to handle than most other fertilizers.
8th.——They stand a drouth much longer than anything else.
9th.——They contain all the elements required for plant food. as they contract their own nitrogen from the atmosphere.
10th——They are a valuable fertilizer for grass, fruit and worn soil and their agricultural value is more than their analyzed value

# I CAN FURNISH ASHES

IN ANY QUANTITY

## Car-loads or Less

except in those districts where I have authorized agents.

car-loads contain from thirteen to twenty tons.

**TRADE**

**MARK.**

I have adopted the above cut as my trade mark, which will be impressed on all packages put up by me (none genuine without it.)

Each package contains full weight exclusive of package. I can furnish quotations and freight rates and secure through bills of laden for any quantity put up in barrels

My price depends upon the distance.

from port of entry to destination, rate of freight and how put up.

ALL SHIPMENTS MADE IN BOX CARS.

Price at the depot where the car is unloaded, from $13 to $20. per ton. Correspondence solicited.

*ADDRESS,*

CHAS. STEVENS,
Napanee,
P. O. Box, 437 Ont., Canada.

# To Farmers, Truckers and Fruit-Growers.

My Unleached Hardwood Ashes contain from 75 to 80 per cent of actual plant food, being a fair percentage of

**Potash, Phosphoric Acid, Magnesia, Soda, Iron, Silica, and Vegetable Lime,**

and are thoroughly sifted to remove all large coals

Honest weights and Pure Unleached, make them the cheapest and best general fertilizer in use.

A SHIP-LOAD OF MY UNLEACHED ASHES ON ITS WAY TO FLORIDA.

Sold on a guarantee to be the best genuine Canada Unleached Hardwood Ashes there is in the market. Look out for my TRADE MARK on each package

**"BEAVER BRAND"**

*ADDRESS,*

CHAS. STEVENS
Napanee,
P. O. Box, 437. Ontario, Canada.

I Guarantee Weight and Quality.

The Best is Always The Cheapest.